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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/872,401 | 06/01/2001 | Tuan Nguyen | 2001 P 09906 US | 2647 |

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Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

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| EXAMINER |
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BRODA, SAMUEL

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| ART UNIT | PAPER NUMBER |
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2123

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/872,401 | NGUYEN ET AL. | |
| | Examiner | Art Unit | |
| | Samuel Broda | 2123 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 9-12, 14-20, and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This communication is in response to Applicants' Request for Continued Examination mailed on 20 January 2005 requesting entry of the Amendment Under Rule 116 dated 12 November 2004 (the "Amendment"). In the Amendment, claims 1, 10, and 18 were amended; claims 4, 8, and 13 were canceled. Claims 1-3, 5-7, 9-12, 14-20, and 22-24 are pending.

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2.1 Claims 1-3, 5-7, 9, 18-20, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worhach et al, "Integration of Environmental Factors in Process Modeling for Printed Circuit Board Manufacturing, Part I: Assembly," Proceedings of the 1997 IEEE International Symposium on Electronics and the Environment, pp. 218-225 (May 1997), in view of Elliott, U. S. Patent 5,907,489 issued 25 May 1999.

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2.2 Regarding claim 1, Worhach et al teaches a method for providing consulting services to a customer in connection with the customer's electronics assembly system, comprising the steps of:

- a. identifying a set of solutions opportunities for the customer's electronics assembly system [solutions opportunities corresponding to minimization of waste streams, energy consumption, process time and to maximization of yield; see Abstract and "II. Model Development" at pages 219-221];
- b. modeling the customer's electronics assembly system in real time with the customer present [customer present to model system using internet-based implementation; see "III. Model Implementation" at pages 221-222 and Fig. 2];
- c. defining one or more performance metrics for a proposed solution [performance metrics shown in Table VIII at page 224 and Table IX at page 225 regarding aqueous and no-clean process alternatives];
- d. prioritizing the identified solutions by running the model for each of the identified solutions [prioritizing aqueous and no-clean process alternatives by energy and waste generation; see "IV. Case Study" at pages 222-224];
- e. selecting a proposed solution from among the prioritized, identified solutions ['no-clean' selected based on lower waste and energy generation; see Table VIII and Figs. 3-7];

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f. quantifying the benefit of the proposed solution relative to the one or more performance metrics [‘no-clean’ selected based on lower waste and energy generation; see Table VIII and Figs. 3-7]; and

g. communicating the quantified benefit to the customer, wherein the quantified benefit comprises a cost of ownership measure [benefit displayed by web page].

However, Worhach et al does not appear to explicitly teach that “the customer’s electronics assembly system is modeled within approximately one half hour” as appearing in the amendment to claim 1 as part of step “g.”

Elliott, U. S. Patent 5,907,489 teaches an “automated fixture builder system” that automatically designs fixtures to hold physical parts such as car doors. See column 1 lines 1-56. According to Elliott at column 1 lines 18-21:

Current fixture design practice is painstaking and laborious in nature. A typical fixture redesign may take two weeks of design effort due to the number of fixture design factors involved. Elliott solves this problem by automating the design process including use of “fixture generation rules which establish criteria for selecting the fixture components” (column 1 lines 44-45) and further states at column 1 lines 53-56 that:

The present invention reduces the time involved to build a fixture from the typical few weeks down to 15 or 30 minutes. **Such a reduction in time has significant commercial ramifications.**

(Emphasis added.)

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Regarding claim 1, it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to perform the method of Worhach et al to model an electronics assembly system with one half hour, because performing the modelling in a fast manner would permit faster turnaround in the consulting process, benefiting both the consultant (who can supply services to more customers per unit time) and the customer (who can receive proposed solutions in a single interaction with the consultant).

2.3 Regarding claims 2-3 and 5, the method of Worhach et al represents the electronics assembly system at a material flow level of abstraction (see Fig. 1), uses simulation models (see "II. Model Development" at pages 219-221), and the proposed solutions relate to the machines in the assembly system.

2.4 Regarding claims 6-7, the method of Worhach et al proposes solutions including information: (1) related to the software tools used in the assembly process, and (2) related to operating parameters of machines in the system, and calculates a cost of ownership measure corresponding to energy and waste consumption. See "IV. Case Study" at pages 222-224.

2.5 Regarding claim 9, the additional method steps correspond to interactive use of the Internet-based implementation of Worhach et al.

2.6 Regarding independent claim 18 and dependent claims 19-20 and 22-24, these claims are unpatentable over Worhach et al in view of Elliott and using the analysis of claims 1-7 and 9, with the customer session taking place during the customer's use of the Internet-based

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implementation of the process models as described in “III. Model Implementation” at pages 221-222.

2.7 Claims 10-12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worhach et al, in view of Elliott, U. S. Patent 5,907,489 and further in view Puri, U. S. Patent 6,064,982 issued 16 May 2000 and filed 12 November 1997.

2.8 Regarding claims 10-12 and 14-17, the combination of Worhach et al and Elliott teach the limitations appearing in claims 10-12 and 14-17 directed to the identification of customer requirements and constraints, configuration selection, determination of a performance measure, comparison of the performance measure to the constraints, and modeling the selected configuration within approximately one half hour. Nevertheless, the combination of Worhach et al and Elliott does not appear to explicitly teach the following portion of the limitation of independent claim 10:

f. if the at least one performance measure satisfies the customer constraints, offering to sell at least a subset of the electronics assembly equipment of the configuration to the customer,
wherein the offer is developed, with the benefit of the model, during the sales session.

However, Puri teaches the use of a “smart configurator” that:

... recommends a system configuration that most nearly meets a customer’s needs, based upon the results of an interactive customer product selection session

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in which the customer progresses through a dialog that is implemented in a series of cascading style sheets.

(Abstract.)

The system and method of Puri generates an offer to sell a particular software configuration during the sales session. See Figs. 8-9 and corresponding text at column 5 line 60 through column 6 line 13. According to Puri at column 1 lines 37-41, such a system and method provides:

an intelligent sales tool that provides field personnel/customers with access to current product information while guiding them through the needs assessment and product selection/configuration process.

2.9 Regarding claims 10-12 and 14-17, it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to modify the interactive modeling and performance features of the electronics assembly system of the combination of Worhach et al and Elliott and to perform the sales function and offer generation features of Puri, because the resulting system would comprise an 'intelligent sales tool' that would permit field personnel to configure electronics assembly systems for customers.

Applicants' Arguments

3. Applicants argue at pages 7-8 of the Amendment that because "Internet-based implementations can occur in a time frame substantially greater than the claimed one-half hour

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time frame,” the system of Worhach et al does not inherently perform the modeling within the one-half hour time frame, making an anticipation rejection improper. Amendment at page 8 paragraph 4; emphasis in original.

Examiner's Reply

4. In response to Applicants' argument regarding anticipation, a new reference teaching the desirability of performing a modeling session within 15-30 minutes has been added with the requisite motivation to combine the references and form a proper Section 103 rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (571) 272-3709. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (571) 272-2100.



**SAMUEL BRODA, ESQ.
PRIMARY EXAMINER**